

KIC 008621026

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008621026-01	OBS	7071.01	4.059429	133.188594	243695.7	5.263	14594.9	9711.5	1.33	6610	67.19	1060.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008621026-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

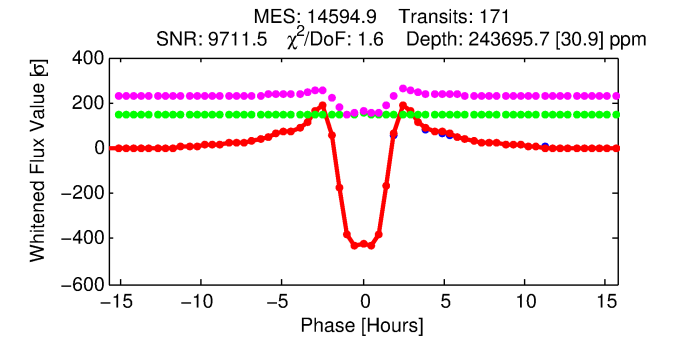
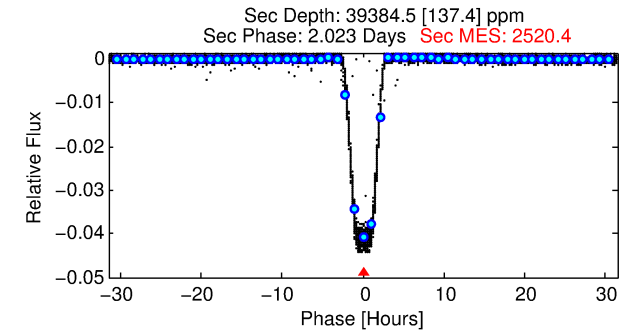
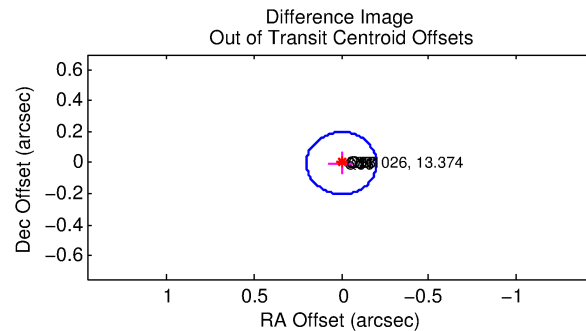
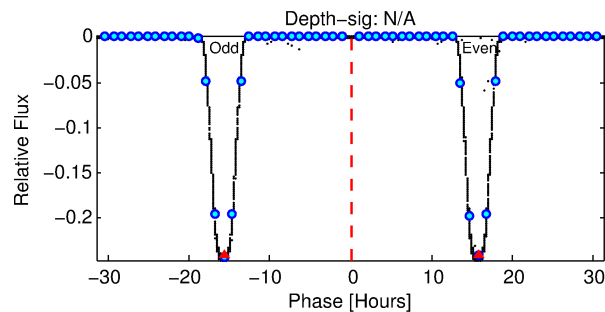
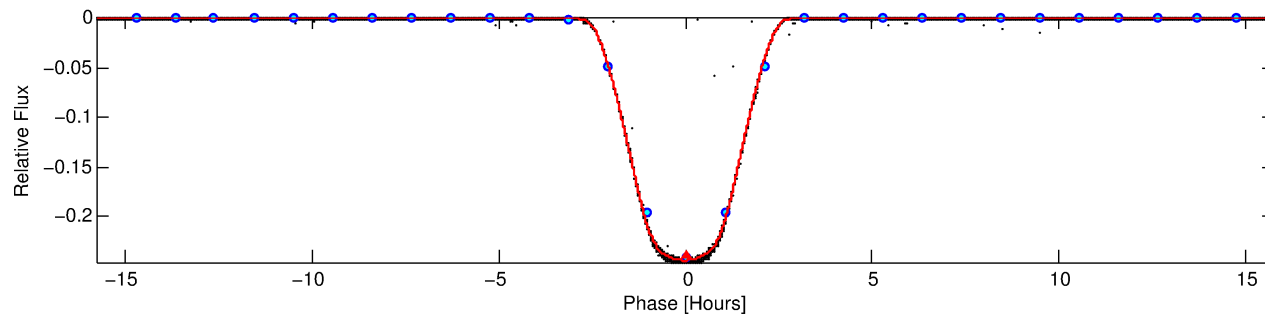
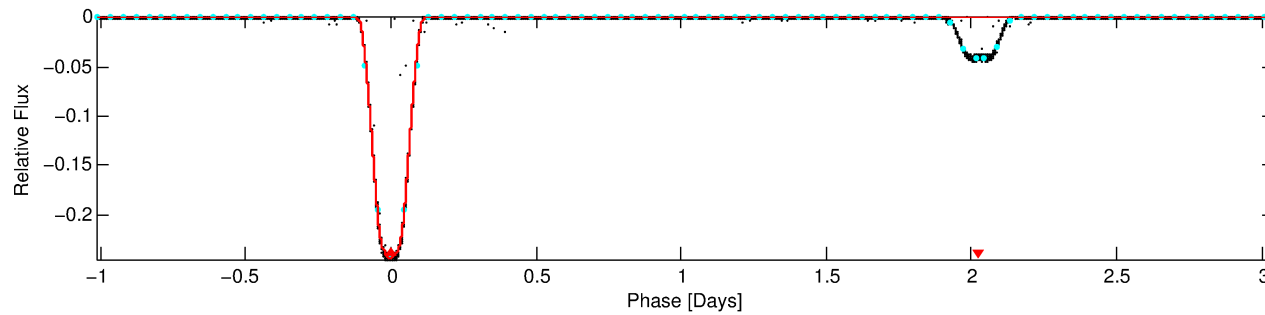
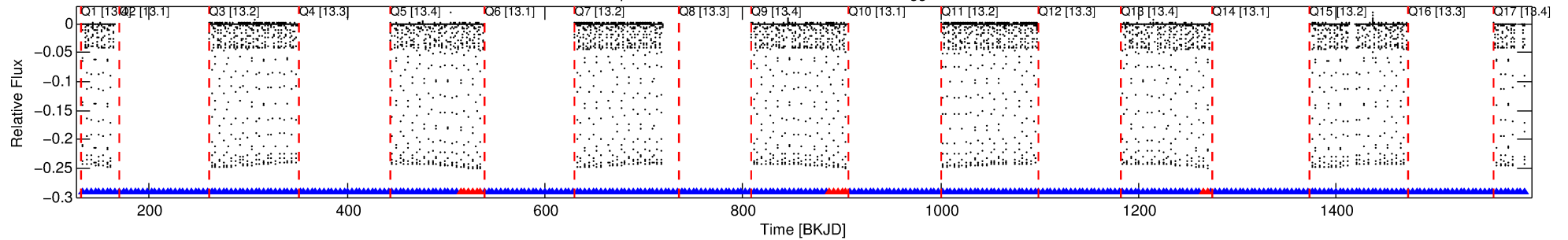
Ephemeris Match Information For 008621026-01

No Significant Match Found

DV One-Page Summary

KIC: 8621026 Candidate: 1 of 1 Period: 4.059 d
KOI: K07071.01 Corr: 1.000

Kp: 13.37 R*: 1.33 Rs Teff: 6610.0 K Logg: 4.28 Fe/H: -0.120



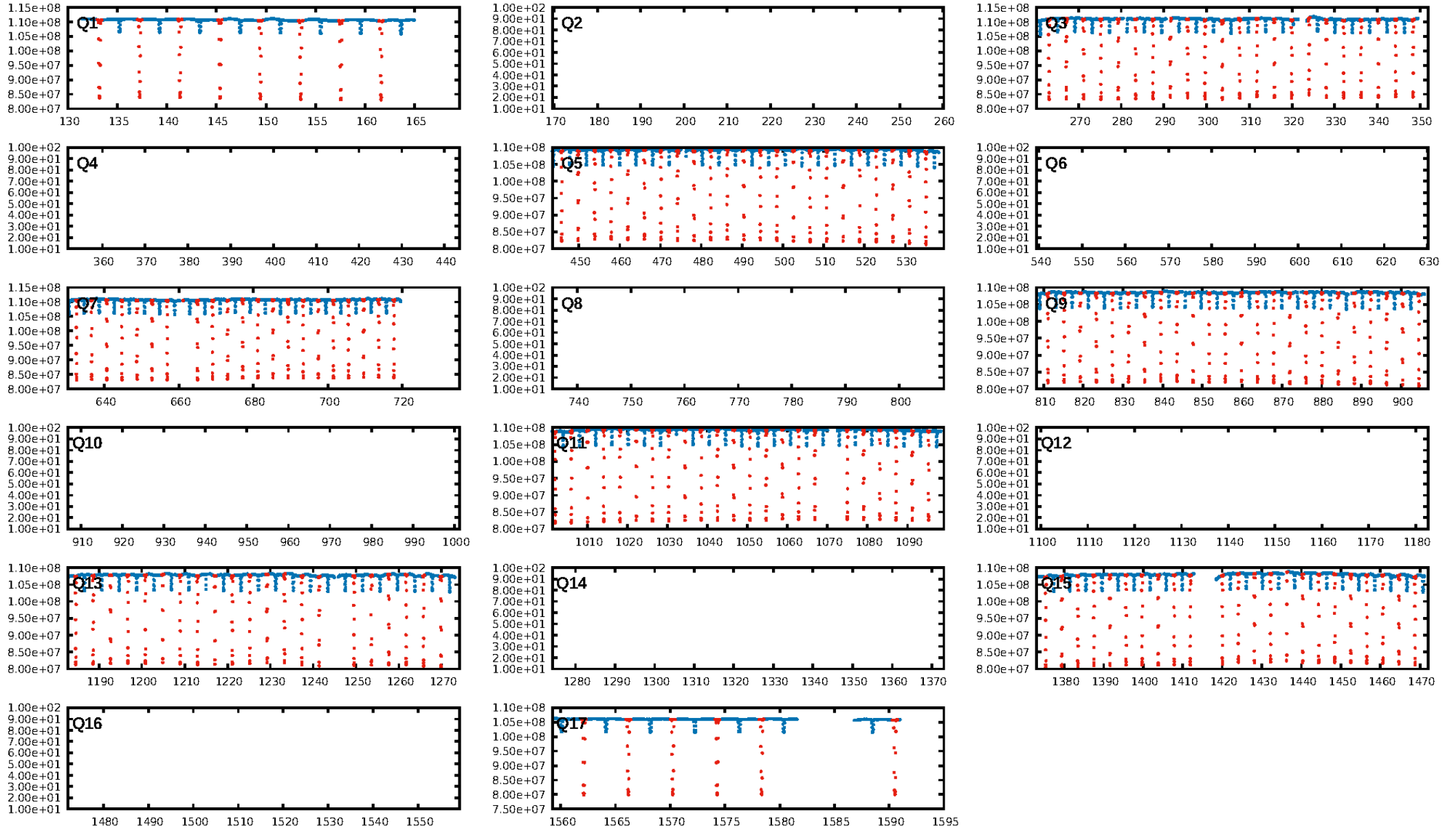
DV Fit Results:

Period = 4.05943 [0.00000] d
Epoch = 133.1886 [0.0000] BKJD
Rp/R* = 0.4630 [0.0000]
a/R* = 8.56 [0.00]
b = 0.22 [0.00]
Seff = 1060.84 [428.98]
Teff = 1455 [147] K
Rp = 67.19 [21.22] Re
a = 0.0534 [0.0139] AU
Ag = 13.69 [5.11] [2.48σ]
Teffp = 4328 [168] K [12.88σ]

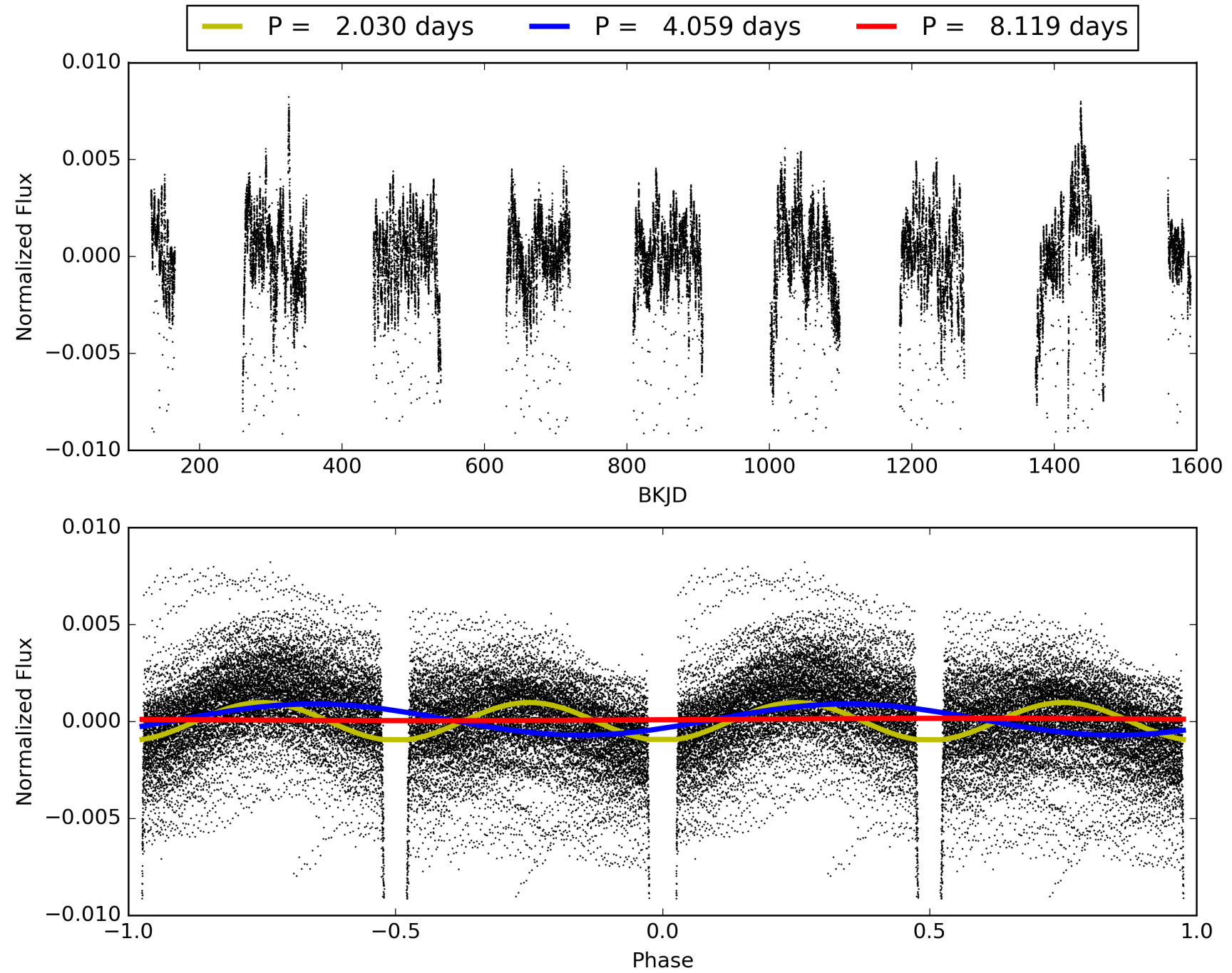
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [144/157]
GhostDiagnostic-chr: 4.334
Centroid-sig: 0.0%
Centroid-so: 0.102 arcsec [235.60σ]
OotOffset-rm: 0.002 arcsec [0.03σ]
OotOffset-st: 0/4/0/5 [9]
KicOffset-rm: 0.144 arcsec [2.02σ]
KicOffset-st: 0/4/0/5 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 008621026-01, PDC Light Curves

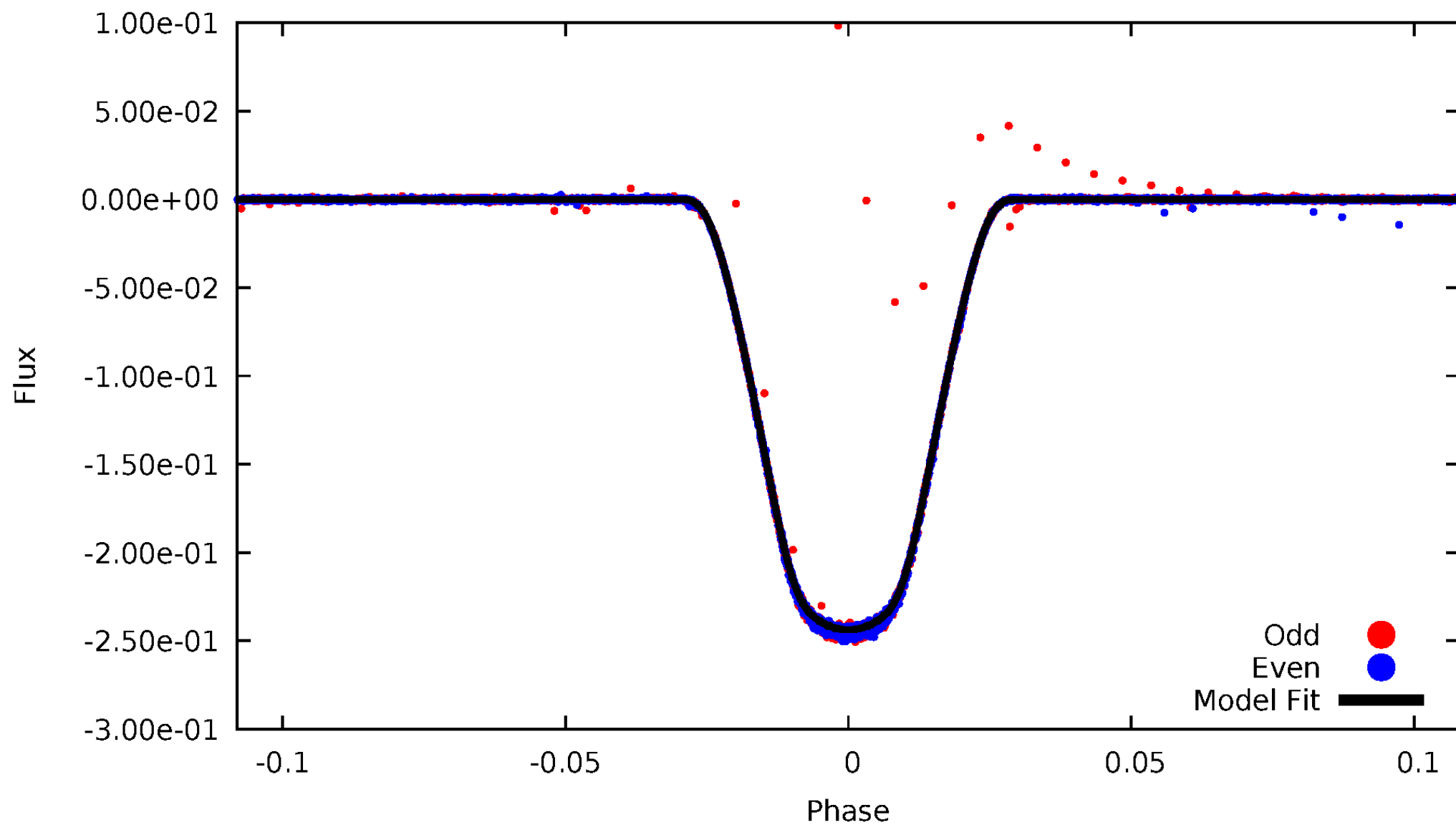


TCE 008621026-01



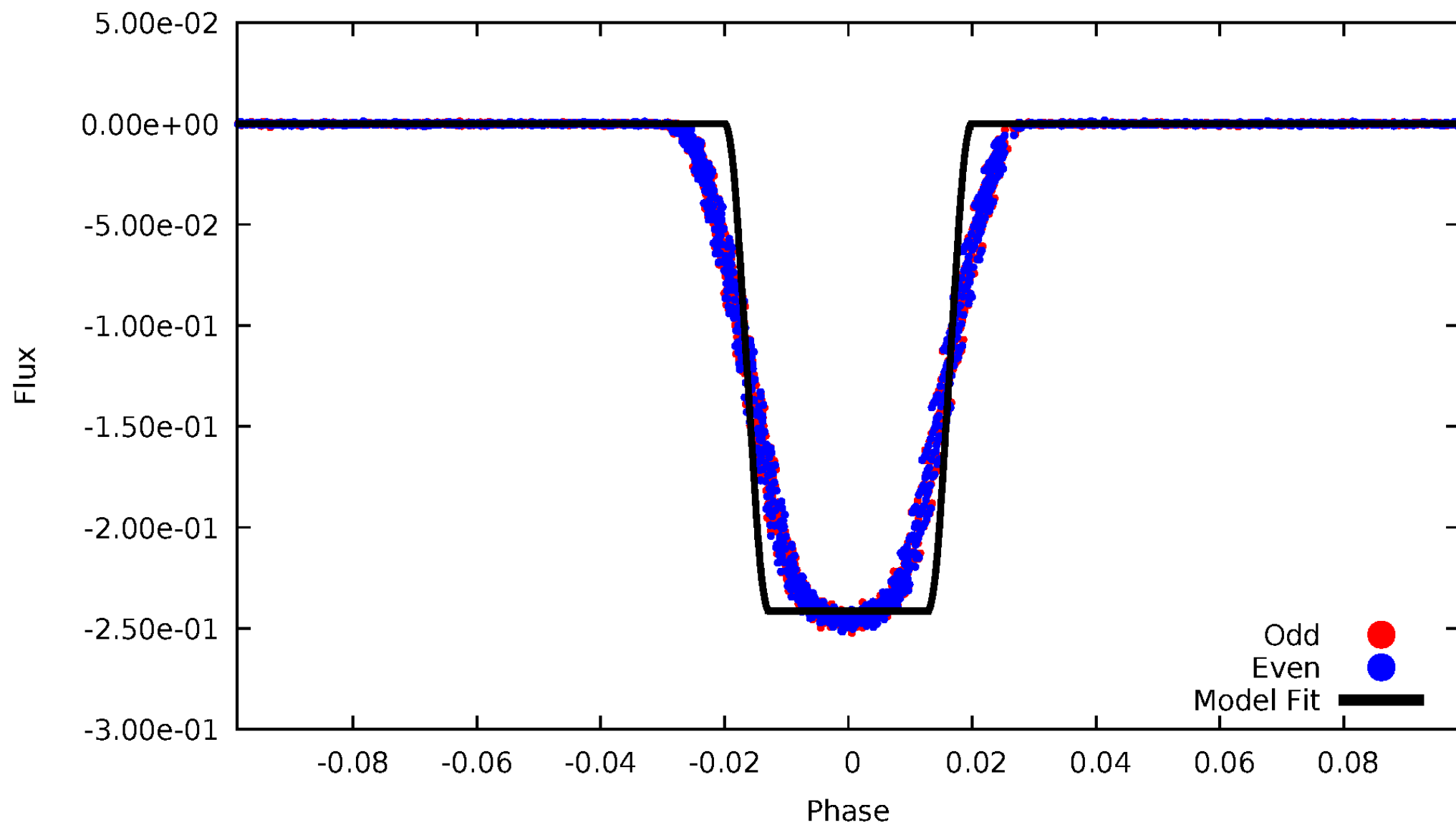
DV Odd/Even

TCE 008621026-01



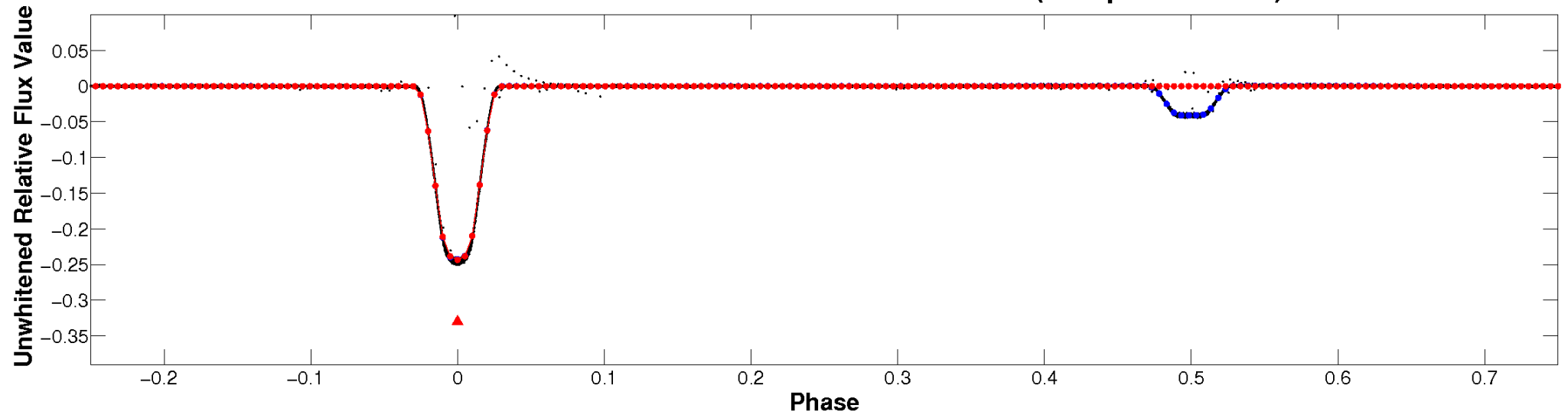
ALT Odd/Even

TCE 008621026-01

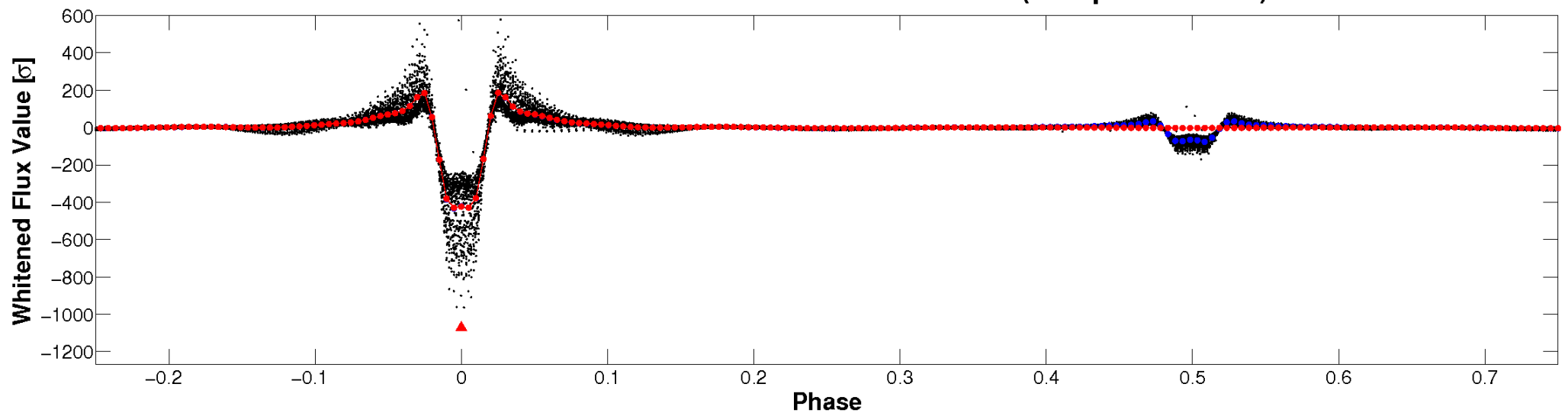


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

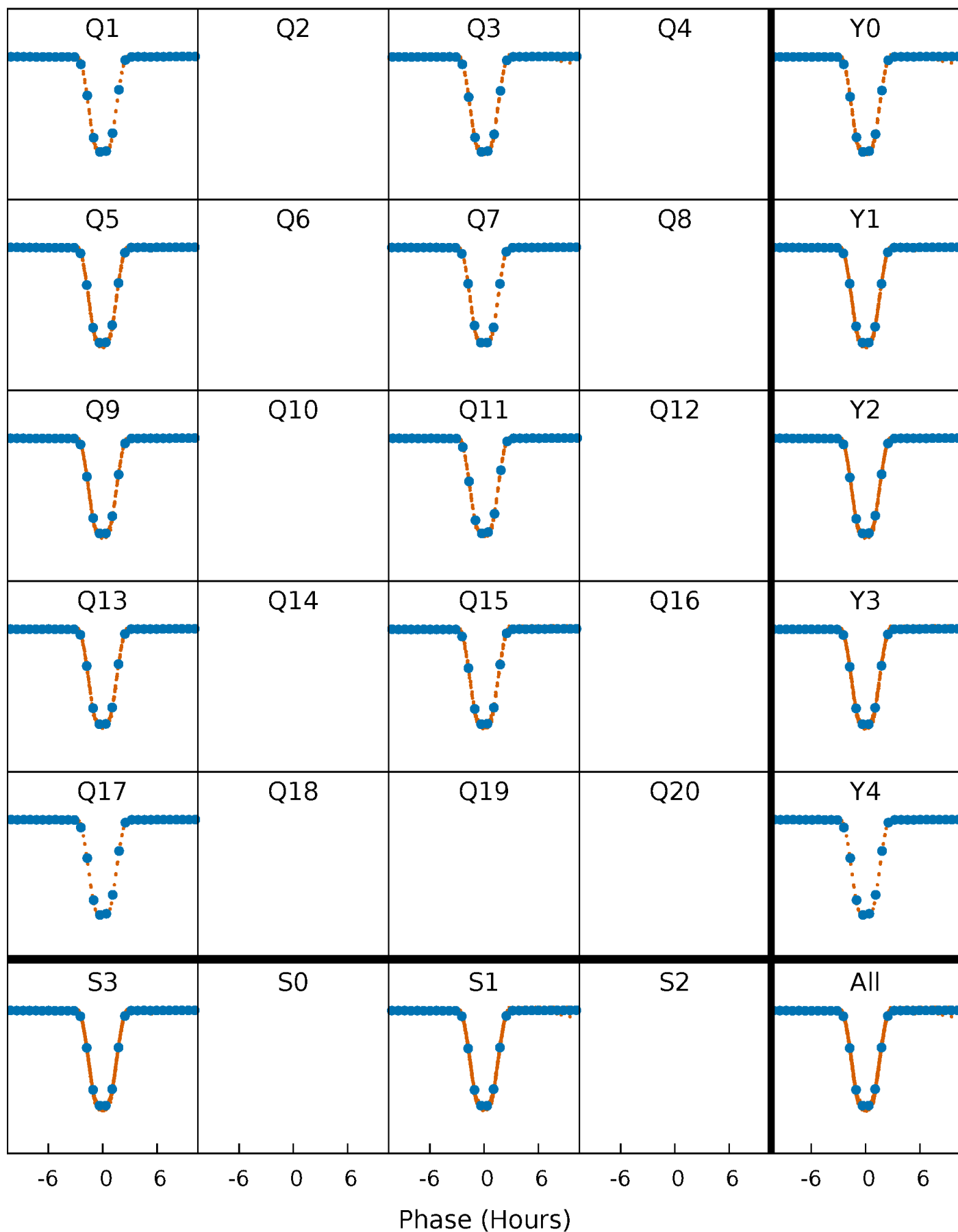


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



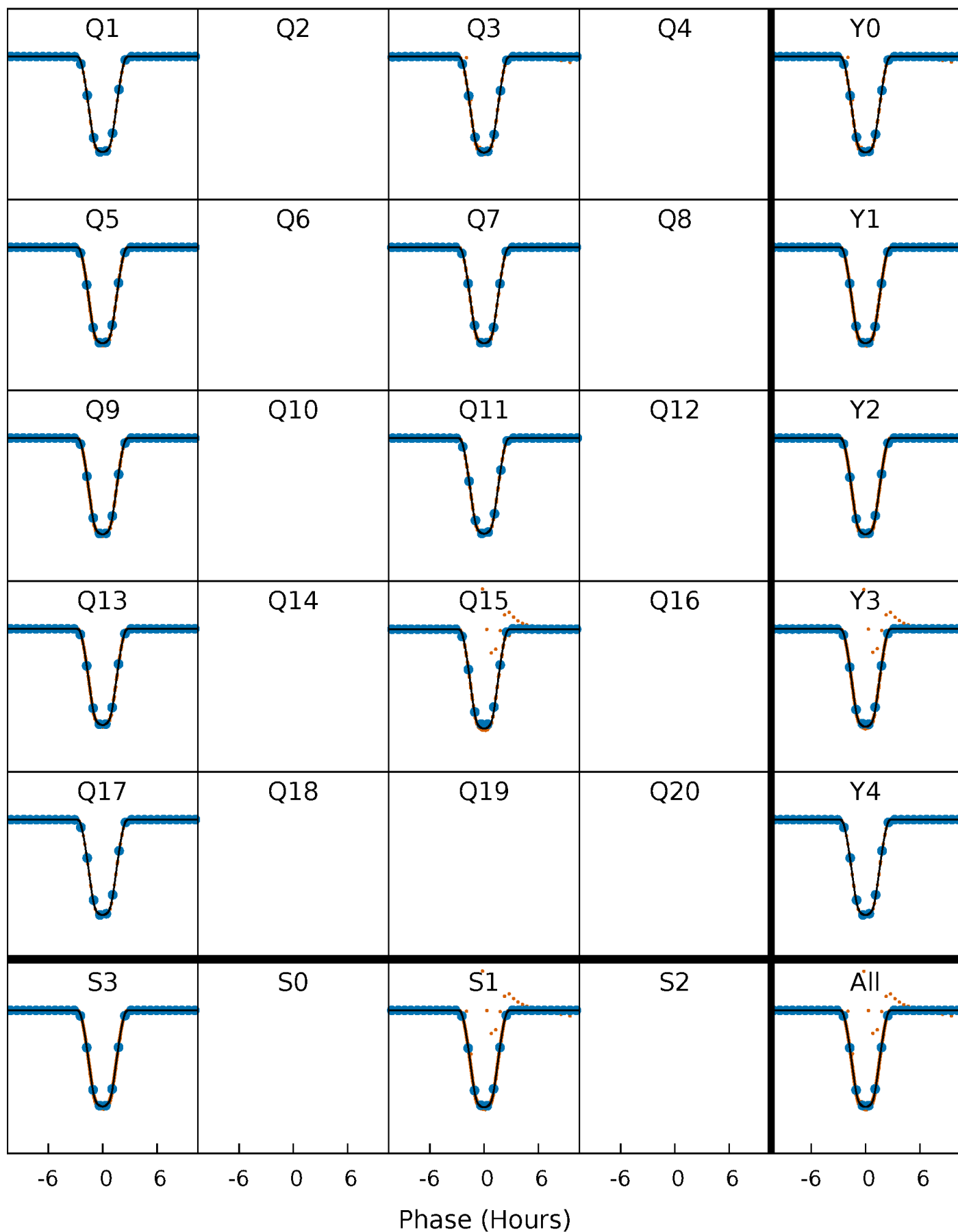
PDC Quarter-Phased Transit Curves

TCE 008621026-01 P= 4.059429 Days $T_0=133.188594$ (BKJD)



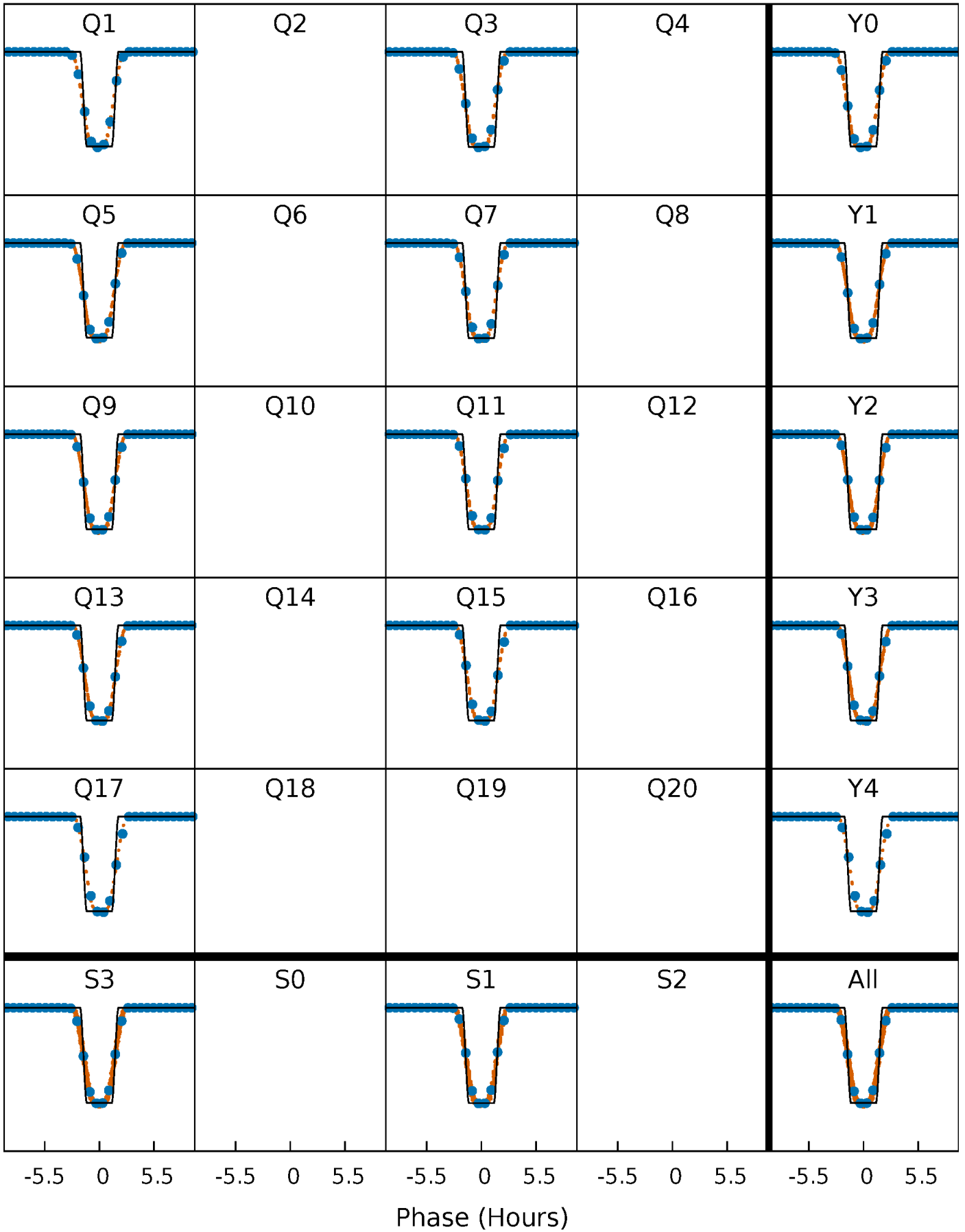
DV Quarter-Phased Transit Curves

TCE 008621026-01 P= 4.059429 Days $T_0=133.188594$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

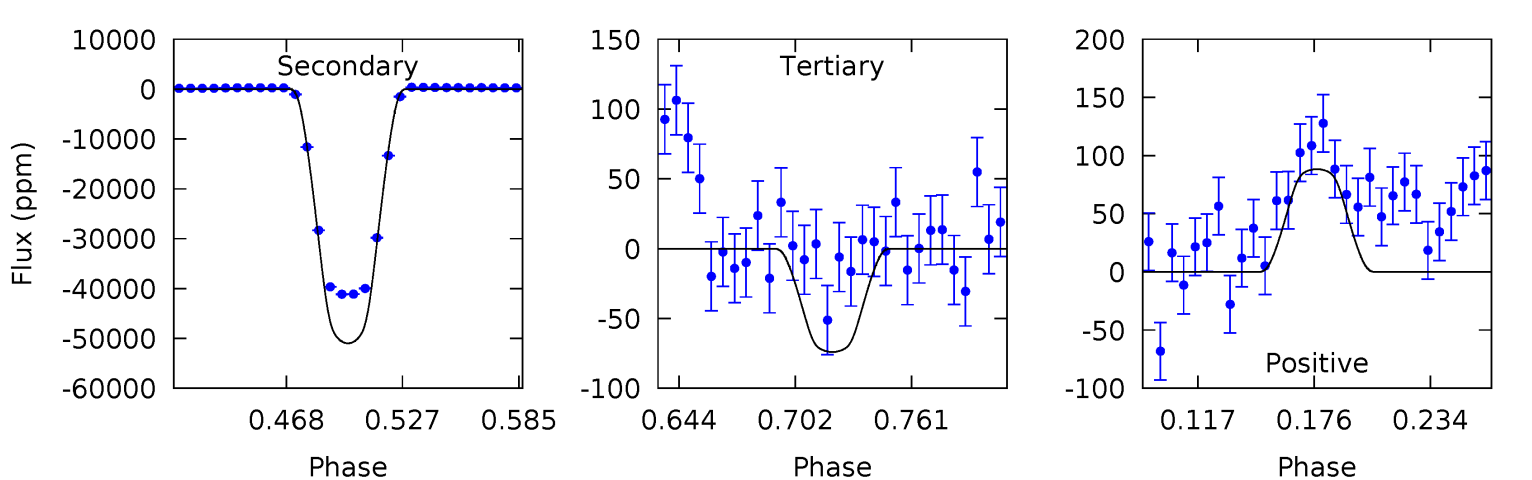
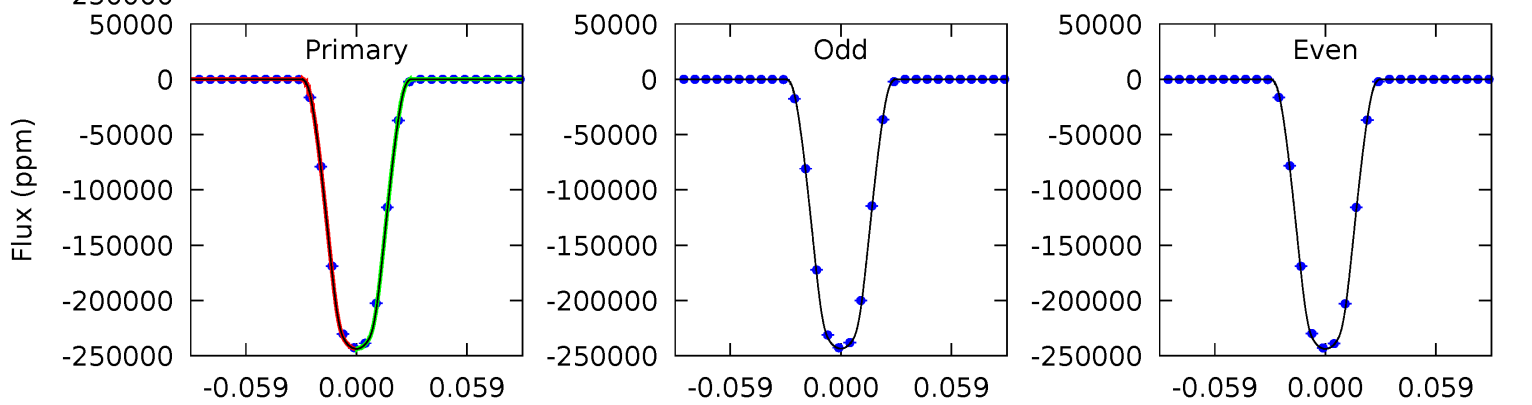
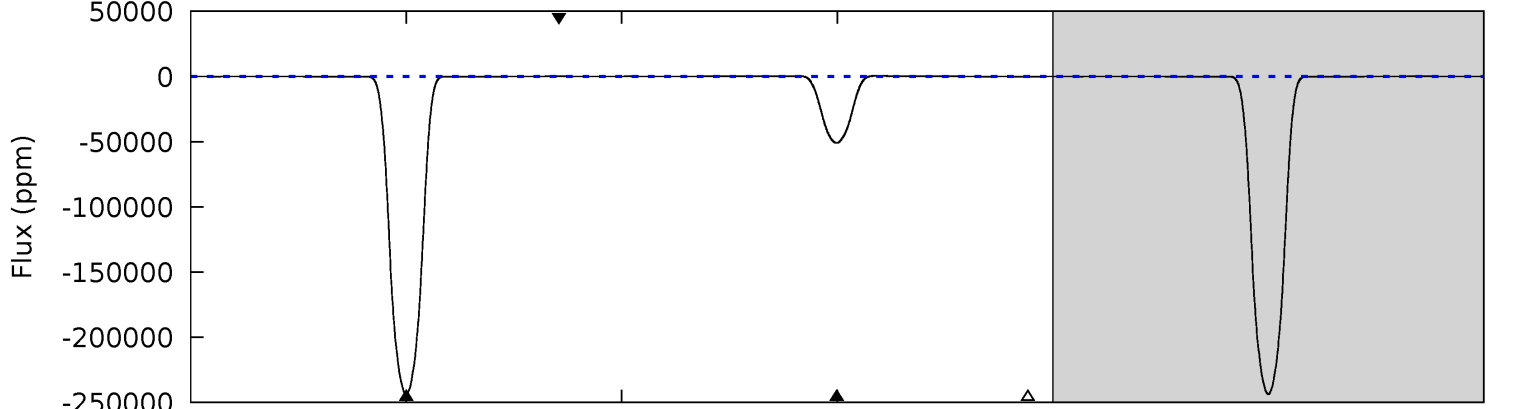
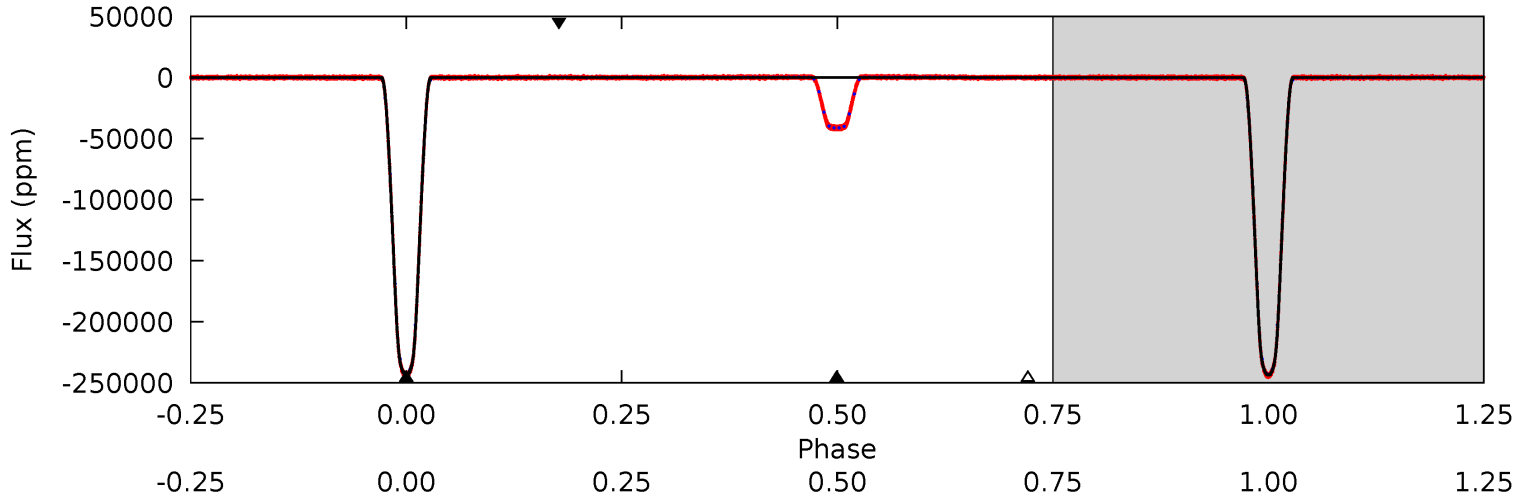
TCE 008621026-01 P= 4.059395 Days $T_0=133.194553$ (BKJD)



DV Model-Shift Uniqueness Test

008621026-01, P = 4.059429 Days, E = 129.129165 Days

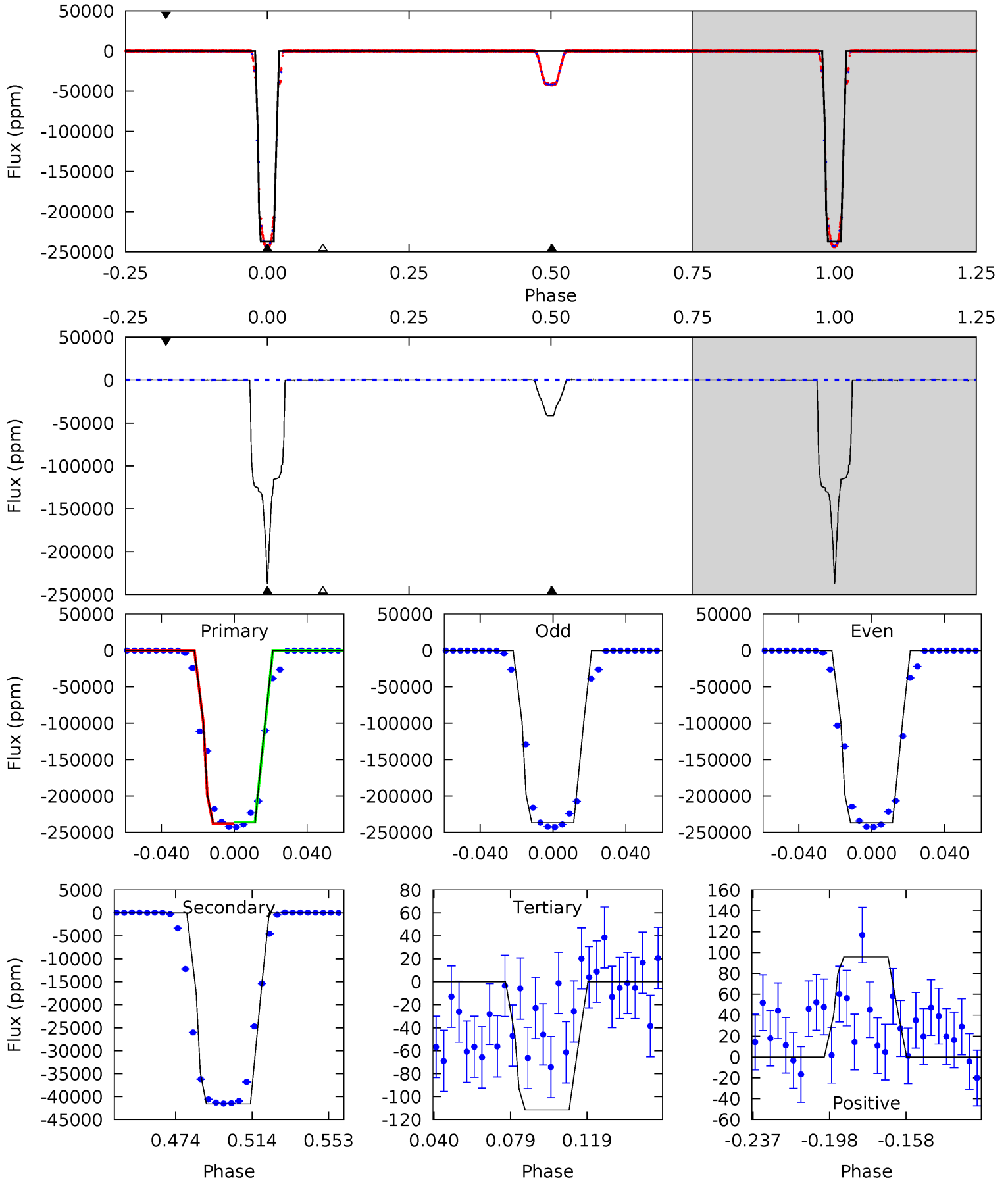
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23399	4898	7.11	8.48	4.68	1.89	10.9	23392	23391	4891	4889	10.1	1.00	0.00	3.99



Alt Model-Shift Uniqueness Test

008621026-01, P = 4.059395 Days, E = 129.135158 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11331	1987	5.33	4.58	4.76	2.06	1.68	11325	11326	1982	1983	2.70	1.00	0.00	56.4



Stellar Parameters For KIC 008621026

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6610^{+186}_{-256}	$4.281^{+0.108}_{-0.201}$	$-0.120^{+0.250}_{-0.300}$	$1.330^{+0.420}_{-0.226}$	$1.236^{+0.186}_{-0.186}$	$0.740^{+0.367}_{-0.389}$
	+3%/-4%	+3%/-5%	+208%/-250%	+32%/-17%	+15%/-15%	+50%/-53%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008621026-01 / KOI 7071.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-50995 ± 10	$68.92^{+11.47}_{-7.37}$	2056^{+152}_{-129}	4775^{+101}_{-144}	18^{+4}_{-4}
Alt.	-41578 ± 21	$71.63^{+13.51}_{-6.78}$	2044^{+172}_{-123}	4467^{+85}_{-131}	13^{+3}_{-3}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

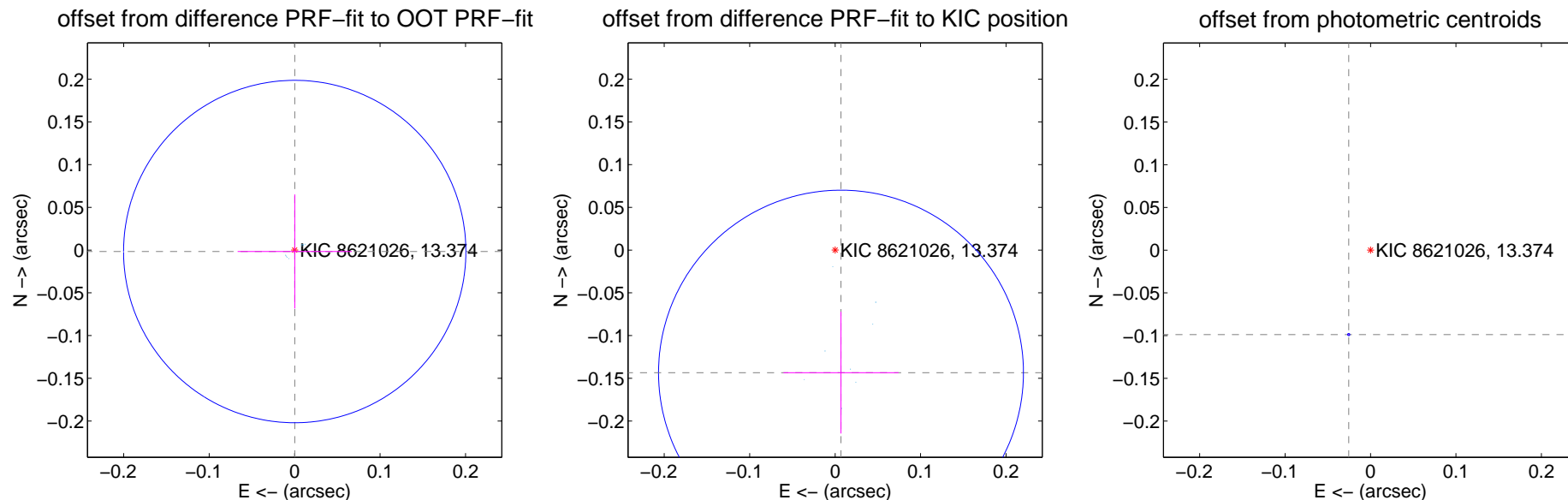
DV Centroid Data

Supplemental centroid analysis for 008621026-01. Kepler magnitude: 13.37. Transit SNR 9711.46

There are 9 quarters with good PRF difference image offsets

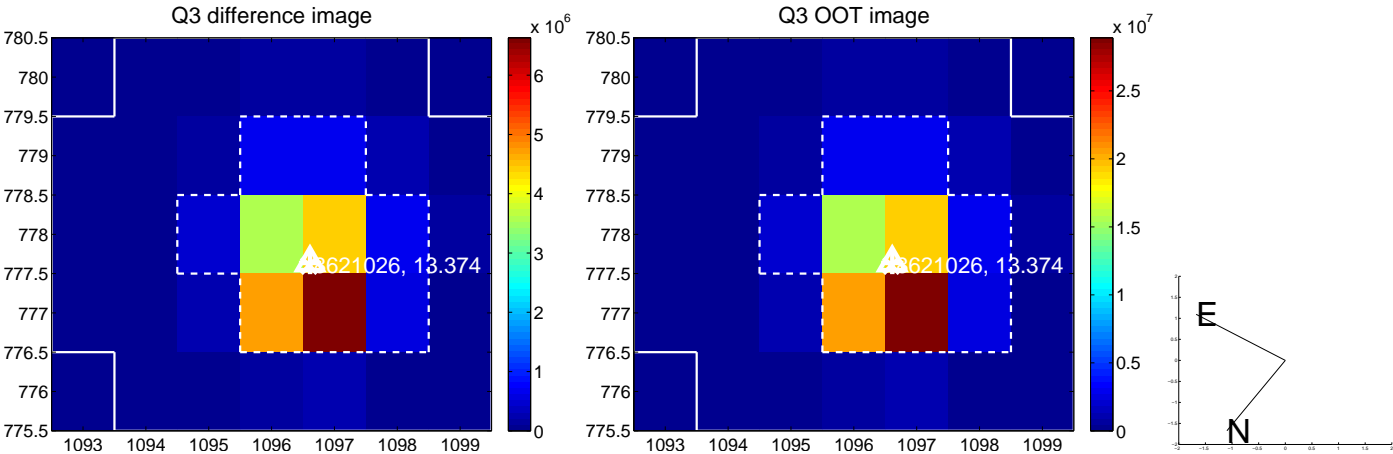
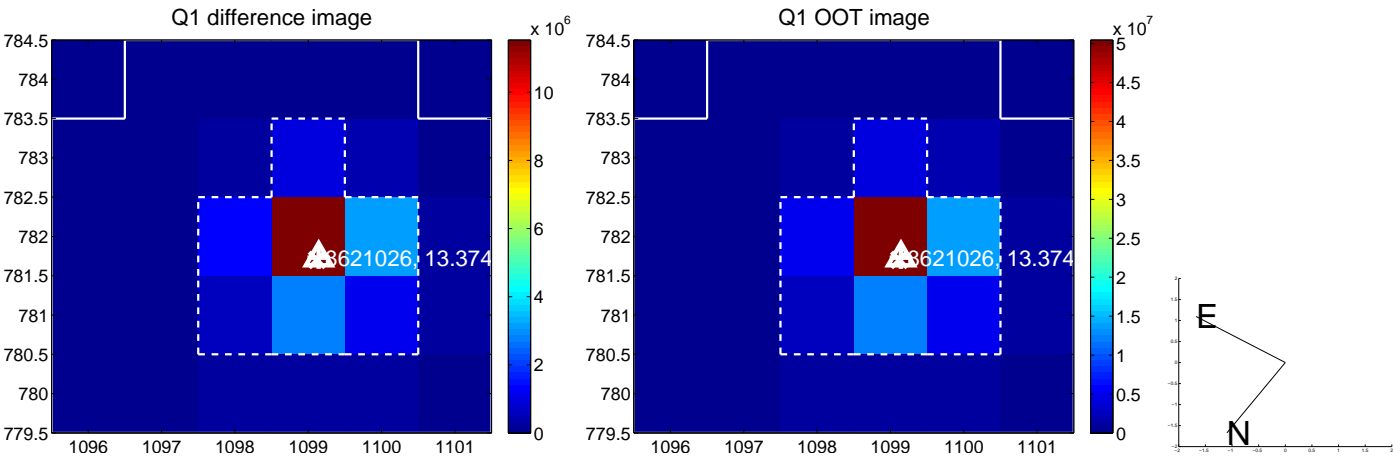
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.002 ± 0.067	0.03	-0.000 ± 0.067	-0.002 ± 0.067
PRF-fit source offset from KIC position	0.144 ± 0.071	2.02	-0.007 ± 0.067	-0.143 ± 0.071
photometric centroid source offset	0.10 ± 0.00	235.60	0.03 ± 0.00	-0.10 ± 0.00

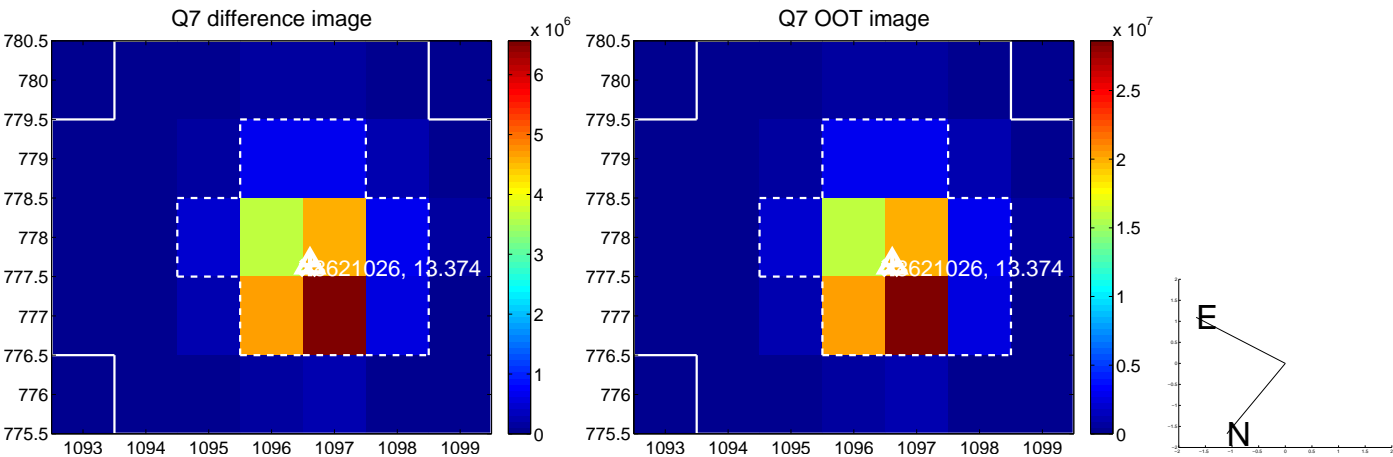
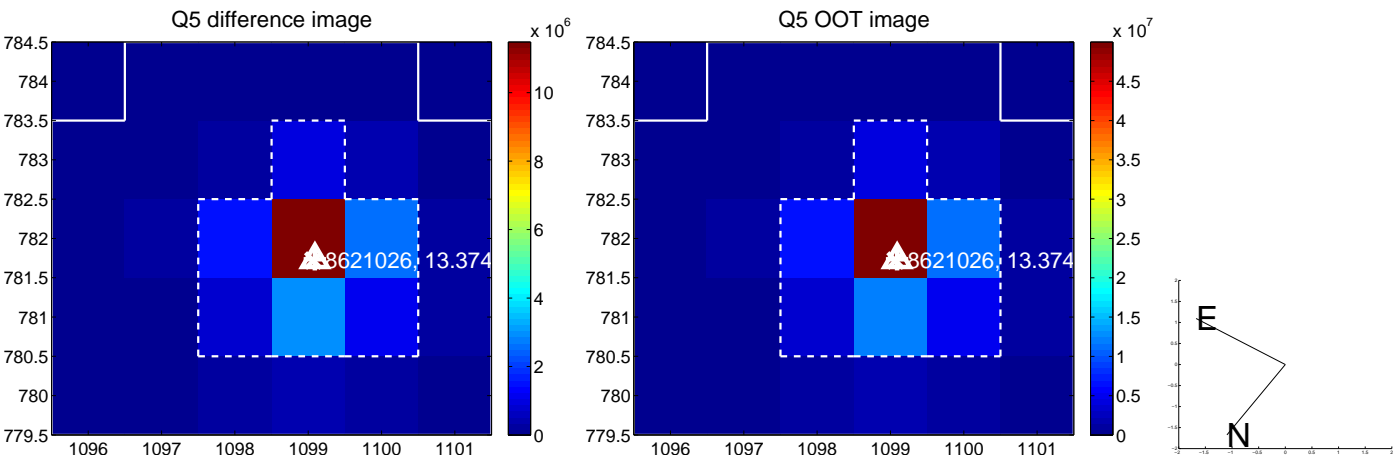


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

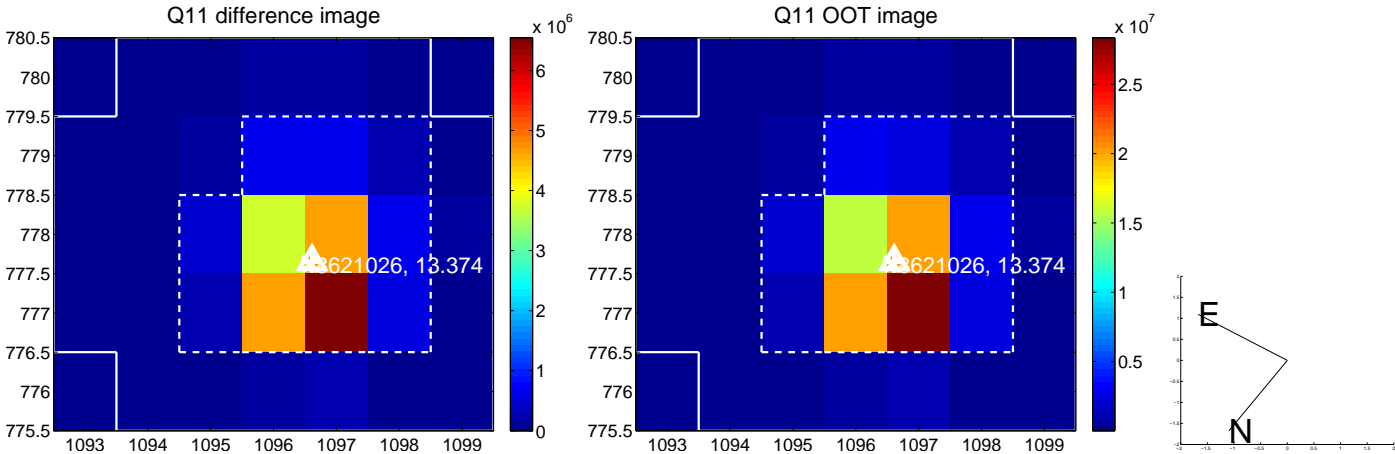
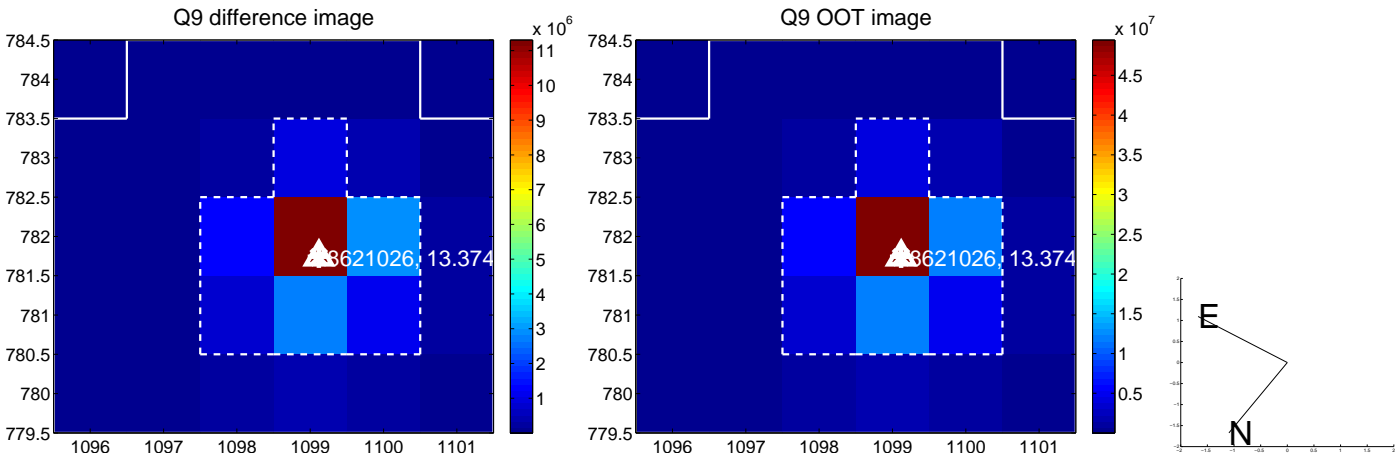
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



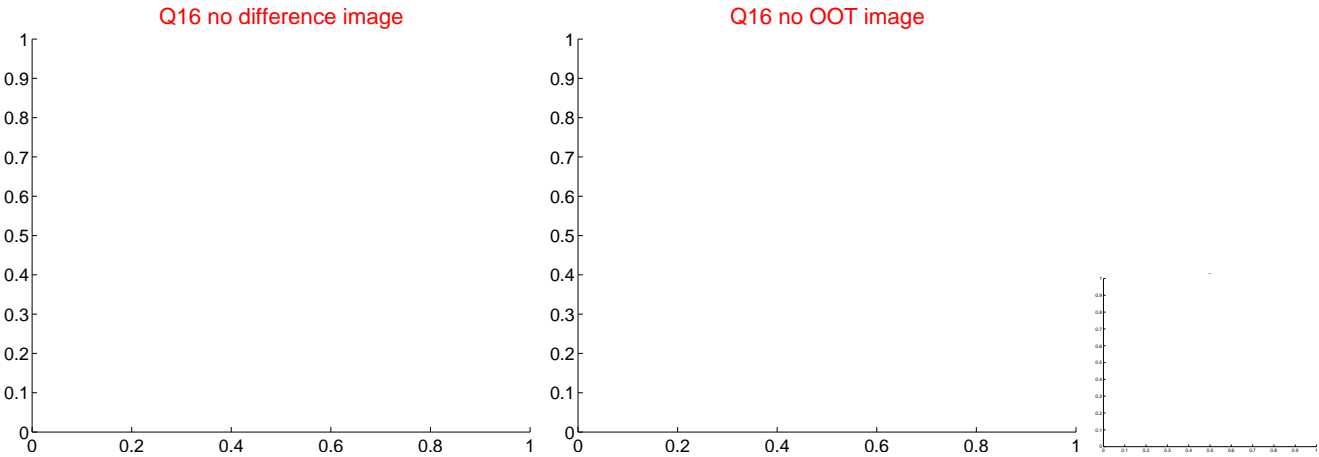
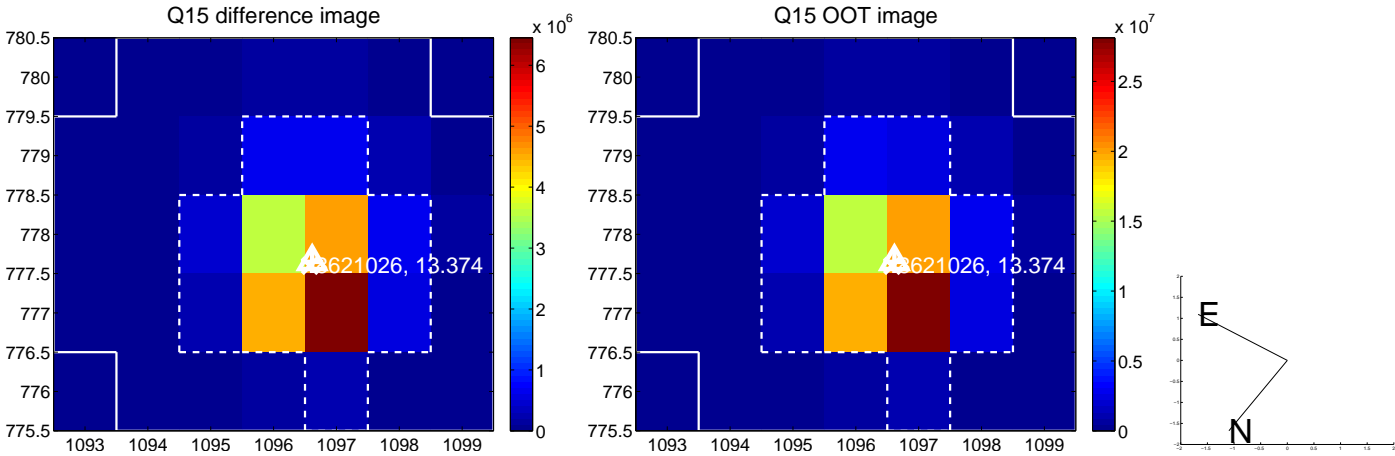
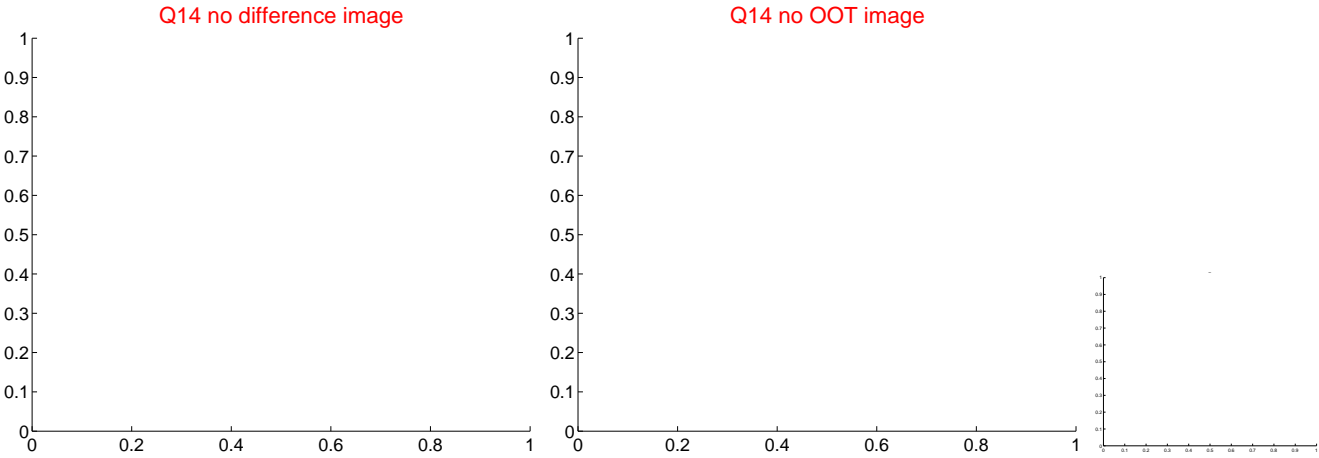
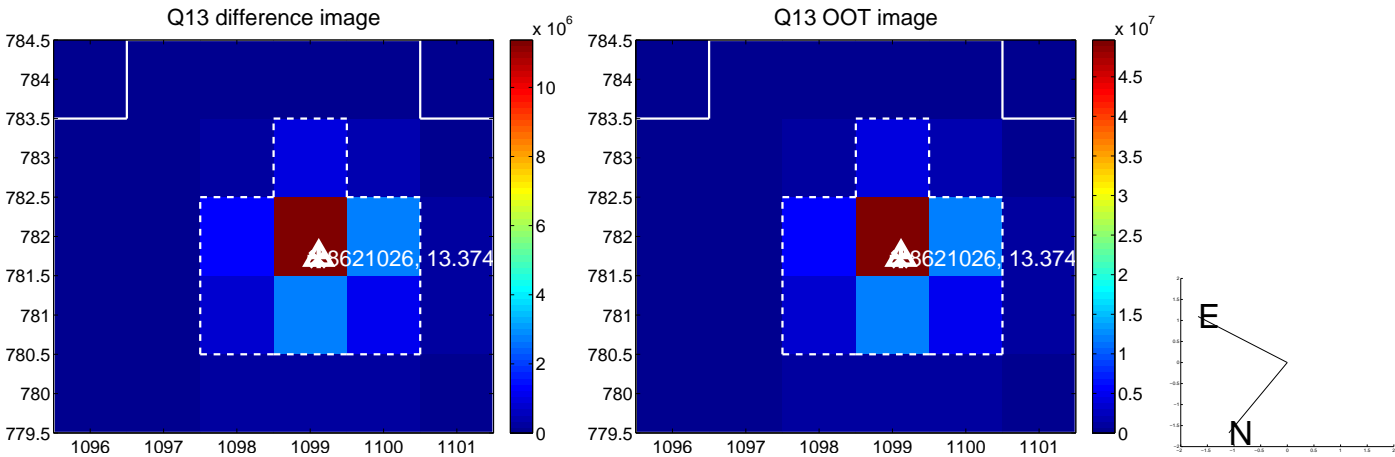
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



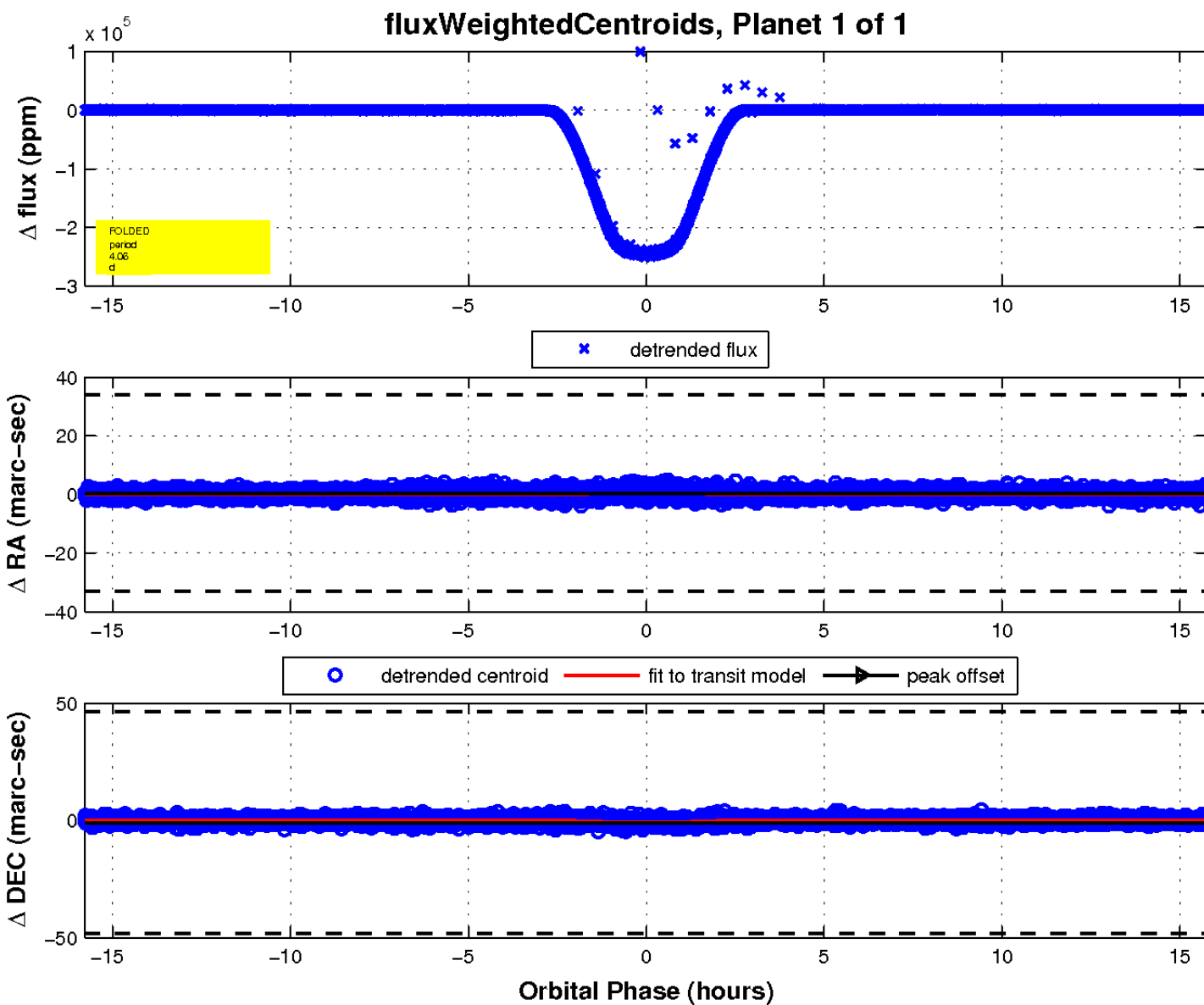
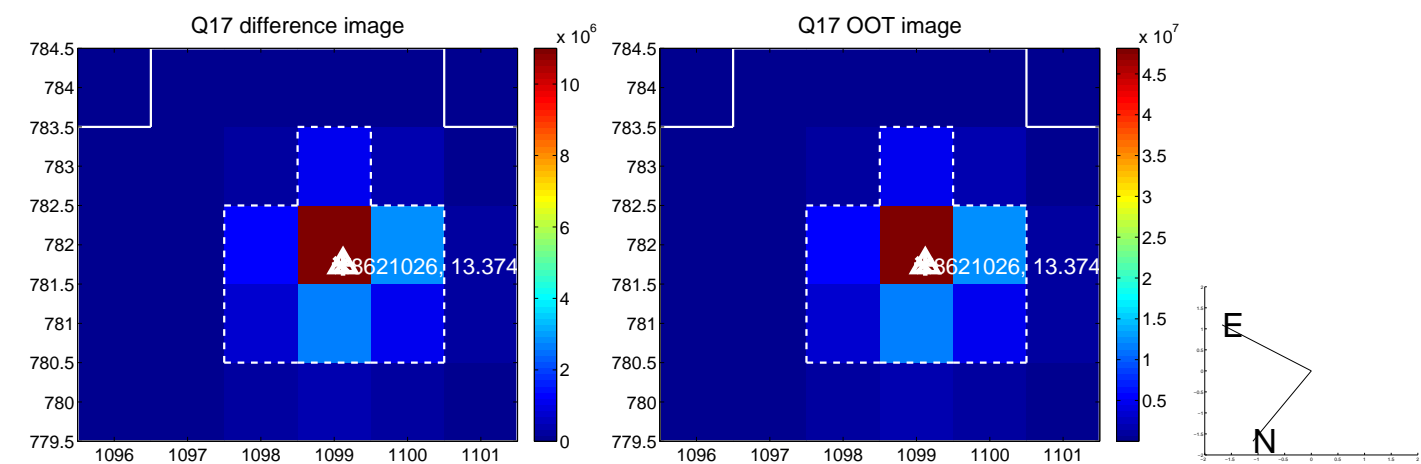
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

